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XVIII.—*Brief Descriptions of new Thysanoptera.*—VII.
By Richard S. Bagnall, F.L.S.

Suborder Terebrantia.

Family **Thripidæ**.

*Heliothrips frontalis*, sp. n.

*H. hæmorrhoidalis* group.

♀.—Length about 1·15 mm.

Head, prothorax, pterothorax, and apex of abdomen golden-brown, shaded to brown laterally; frons brown; legs yellow, femora slightly deeper in coloration than the tibiæ, especially the intermediate pair. Body, excepting apex, chestnut-brown, with a sublateral pair of black rings or "eye-spots" on tergites 3 to 7. Antennæ broken in the unique specimen except the first two joints, which are light yellow. Fore-wing clouded with yellowish-brown at base and with the veins in the third sixth (or more) and the fifth sixth dark brown; veins otherwise except at extreme apex (distal sixth), where they are colourless, yellowish to light yellowish-brown.

Head subquadrate, strongly reticulated, about 0·8 as long as broad across eyes; cheeks very slightly arched behind eyes, and then as faintly sinuate or convergent posteriorly. Eyes small, only occupying about one-third the length of the head, and the space between them at least 2·5 times the width of one of them. Antennæ . . . . Vertex produced

into an exceptionally prominent hump, with anterior ocellus facing forwards at summit and the posterior pair evidently flanking the sides.

Prothorax only about 0·7 the length of the head, transverse, with angles rounded; widest near posterior angles, where it is twice as wide as long; surface with network reticulation as in head, except a belt across disc. Pterothorax widest at junction of meso- and metathorax. Legs much as in allies, hind-tibiæ long, slender basally. Wings reaching to sixth abdominal segment, fore-wings slightly upturned distally, with veins (including marginal) strong; upper vein fused with costa; lower vein joining the hind-margin at or just before the distal sixth. Costal fringe of about fifteen curved setæ; lower cilia also sparse, fumate, rather long, slender, and wavy.

Abdomen comparatively heavy, elongate-ovate, and about 1·4 times as broad as the pterothorax at broadest. Tenth abdominal segment long, more than twice as long as broad near base, divided above. Apical setæ vestigial, a pair on 9, at hind angles, only about 0·3 the length of segment 10.

*Type.* Hope Department of Zoology, University Museum, Oxford.

*Hab.* Australia, Healesville, Victoria; on *Senecio duyardeus*, 1 ♀ only (*R. Kelly*).

Genus Australothrips, nov.

Strong network reticulation. Antennæ 8-segmented, style normal, not setiform; joint 2 quadrate, cup-shaped, hollow at apex for reception of 3. Head transverse, hind-angles prominent; eyes prominent; maxillary and labial palpi 3- (?) and 2-jointed respectively.

Prothorax without any prominent setæ, transverse, with lateral, explanate, wing-like margins. Wings straight, not reticulated; fore-wing with strong ring-vein, upper vein merged in costa, and lower vein appearing as a median vein; no cilia or setæ on costa, no setæ on veins, and lower margin with cilia fine. Hind-wing with strong median vein; a series of slender setæ or cilia on upper margin and a long slightly wavy fringe on lower margin.

Tenth abdominal segment short, broad, cylindrical.

Pterothorax and abdomen much as in *Rhipiphorothrips*.

Type. *Australothrips bicolor*, mihi.

Differs from *Dinurothrips*, the only other genus with

explanate lateral margins of the prothorax, in the simple antennal style and the structure of fore-wings, which are without setæ and cilia on the costa.

*Australothrips bicolor*, sp. n.

♀.—Length about 1·1 mm.

Orange-yellow; head, prothorax, mesothorax, scutular area, and sides of metathorax dark chestnut-brown; fore and intermediate femora dark brown; hind-femora and fore and intermediate tibiæ lightly tinged with brown. Antennæ with joint 6 apically and style brown; first joint lightly tinged with brown. Scale of fore-wing, small patch adjoining, and mid-vein and cilia of hind-wing brown.

Head about 1·8 times as broad as long, cheeks slightly converging, and hind angles prominent; network reticulation of surface strong, especially below an arcuate raised line behind eyes. Eyes prominent, space between them about twice the width of an eye. Vertex sinuate on each side of raised part, having the antennæ, which are twice as long as the head, seated in the sinuations. First antennal joint short; second quadrate, with distal cup-shaped hollow for reception of 3; 3 long, claviform, constricted at apex; 4 and 5 cylindrical, with minute stem, and 4 also narrowly constricted at apex; 6 broadest basally; 7 and 8 together styliform, and the relative lengths and breadths as follows:—

$$\frac{16:34:48:28:24:22:8:13}{20:30:16:17:17:14:7:5}.$$

Prothorax as long as or only slightly longer than the head, and (excluding the lateral explanate margins) as broad as the head. Legs comparatively short and stout.

Posterior margins of abdominal tergites with more or less regularly placed, minute, blunt projections; setæ on segment 9 short and those on 10 very short, colourless.

♂.—Smaller, more slender. Lemon-yellow where orange-yellow in ♀. Tergite 8 set with four long and rather stout spines set on an arcuate series of tubercles.

*Type.* Hope Department of Zoology, University Museum, Oxford.

*Hab.* Australia, Healesville, Victoria; on *Eucalyptus viminalis* (R. Kelly).

*Tæniothrips major*, sp. n.

♀.—Length about 2·0 mm.

Colour dark chestnut-brown ; fore-tibiæ, hind-tibiæ basally, all tarsi, and third antennal joint not quite so dark. Fore-wings brown, slightly lighter distally.

General form as in *T. inconsequens* (Uz.).

Head almost as long as broad ; eyes bulging, coarsely facetted, pilose ; cheeks swelling out from behind eyes as in *T. primulæ* and *inconsequens*. A series of dorsal and lateral setæ on a line behind eyes. Ocelli large ; a pair of very long and strong inter-ocellar bristles situated between the posterior ocelli ; a shorter pair on vertex close to inner margins of eyes and beyond the anterior ocellus, which is directed forwards. Dorsal surface transversely striate in basal half or thereabouts. Antennæ long and slender, about 2·3 times the length of head ; joints 3 and 4 fusiform ; relative lengths of joints:—16 : 22 : 40 (with stem) : 36 : 25 : 32 : 4 : 5 ; forked trichomes on 3 and 4 long and slender.

Prothorax transverse, not quite as long as the head ; broadest at posterior angles ; bristles at posterior angles long and slender ; a line demarcating posterior margin ; a pair of longish mid-dorso-lateral setæ, and several short setæ, curved and chiefly lateral. Pterothorax large. Wings long, strong, pointed at apex, reaching to ninth abdominal segment ; setæ slender. Fore-wings with three or four setæ on distal half of upper vein, namely, one just within the distal half and 1+0+1 or 1+1+1 in the distal fifth or thereabouts.

Abdomen elongate, pointed at apex from base of segment 8 ; apical bristles long, especially those on 9, which is also furnished with a pair of shorter dorsal bristles.

This is a true *Tæniothrips*, coming nearest *inconsequens* (*pyri*), from which it differs chiefly in the much larger size and darker coloration, the chætotaxy, and in the slender antennæ.

*Type.* Hope Department of Zoology, University Museum, Oxford.

*Hab.* India, Kulhara, Garhwal, 11,700 feet altitude ; in flowers of rhododendron, 5. vi. 10, together with *Physothrips longiceps*, sp. n. (*A. D. Imms*).

*Tæniothrips inconsequens*, Uzel.

1895. *Physopus inconsequens*, Uzel (and others).
1904. *Euthrips pyri*, Daniels (and others).

For some time I have considered that the well-known

pear-thrips, *P. pyri*, was synonymous with the earlier-described *P. inconsequens* of Uzel, a conclusion that Mr. C. B. Williams had also come to. On going into the question together recently, comparing material from North America, Central Europe, and England, we confirmed this opinion.

It is interesting to note that in the Czech account of the habitat of *P. inconsequens* in Uzel's monograph the food-plant *Prunus cerasus* is mentioned.

For a pest of such importance the trivial name *inconsequens* is unfortunate.

*Odontothrips fasciatipennis*, sp. n.

♀.—Length 1·3 mm.

Dark brown, pterothorax rather lighter; fore-tibiæ light yellow, shaded to grey-brown basally; apices of intermediate and hind tibiæ and all tarsi light yellow; antennal joints 3 and 4 yellow.

Fore-wing with basal third clear, then a band or patch of brown, and the distal two-fifths with but the slightest tinge of grey; cilia grey-brown. Posterior ocelli on a line drawn behind eyes and contiguous to their inner angles. Fore-tibial teeth small, sharp, the larger sharply bent; fore-tarsus apparently without tooth.

This species differs from both *phaleratus* (Hal.) and *intermedius* (Uz.) in the coloration of the wings.

*Type.* Hope Department of Zoology, University Museum, Oxford.

*Hab.* S. Australia, Outer Harbour, Adelaide; collected by Prof. Poulton in the flowers of *Mesonbryanthemum*, Aug. 28th, 1914.

Genus Physothrips.

a. *Sjostedti-usitatus* group.

*Physothrips usitatus*, Bagn., var. *cinctipennis*, nov.

Fore-wings with the middle third and extreme tip greyish-brown. Relative lengths of antennal joints as follows:—12 : 16 : 25 : 25 : 16 : 23 : 7 : 8.

Distinguished from the type-form (only known from India) by the distinct clear band near distal end of fore-wing. This band is weakly suggested in the Indian specimens.

*Type.* Hope Department of Zoology, University Museum, Oxford.

*Hab.* N. Queensland, Brandon; on small flowers (pea), 16. x. 14 (*R. Kelly*).

*Physothrips brunneicornis*, sp. n.

♀.—Length 1·4 to 1·5 mm.

Colour brown, the antennæ, head, prothorax, intermediate and hind femora and tibiæ, and apical abdominal segments inclined to be darker. Antennæ unicolorous, fore-tibiæ yellow, shaded with greyish brown along margins; all tarsi yellow. Fore-wings faintly clouded with light grey-brown near base; basal third or thereabouts clear, thence smoky-brown to tip excepting for an ill-defined clear patch at about the commencement of the distal fifth; setæ and cilia dark.

Head about 0·7 as long as broad and not quite as long as the prothorax; a defined area of the dorsal surface behind transversely striated. Eyes coarsely facetted, minutely pilose; cheeks not arched, tending to widen posteriorly; ocelli large, posterior pair above a line drawn across hind margins of eyes; interocellar bristles long and strong, placed between the anterior ocellus and the posterior pair. Antennæ seated below vertex, about 2·5 times as long as the head; relative lengths of joints 3 to 8 as follows:—22 : 22 : 14 : 20 : 5 : 6. Joints 5 and 6 somewhat broadly united and distinctly more slender than the preceding; forked trichomes on 3 and 4 long and stout.

Prothorax much as in *P. usitatus*.

Fore-wing and arrangement of setæ as in *P. usitatus*.

Abdomen about 1·15 times as broad as the pterothorax, segments 9 and 10 obconical; apical bristles long and stout; 9 with a rather short dorsal pair widely separated.

This species very closely approaches *P. usitatus*, Bagn., but is at once separated from it (as well as from *sjostedti*, Trybom, and *variabilis*, Bagn.) by the unicolorous antennæ. The antennal joints 3 and 4 would appear to be stouter and 6 shorter than in *usitatus*, whilst the fore-femora are concolorous with the prothorax.

*Type.* Hope Department of Zoology, University Museum, Oxford.

*Hab.* Japan, Kobe, April 1914 (*J. E. A. Lewis*). Reg. no. 144.

*Physothrips seticollis* (Bagnall).

*Tæniothrips seticollis*, Bagnall, 1915, Ann. & Mag. Nat. Hist. ser. 8, xv. p. 591.

This species cannot be referred to the genus *Tæniothrips* as exemplified by *inconsequens*, *primulæ*, and *major*, sp. n.

b. *Funtumiæ* group.

*Physothrips kellyanus*, sp. n.

♀.—Length 1·6 to 1·8 mm.

Very like *P. funtumiæ*, Bagn.

Dark chestnut-brown, antennæ with the distal constricted parts of joints 3 and 4 colourless; fore-tibiæ and all tarsi yellow. Fore-wings yellowish-brown, basally lighter; hind-wings also fumate, with ciliæ and median vein dark.

Head a little broader than long, eyes setose; interocellar setæ long. Relative lengths of antennal joints 3 to 8 as follows:—27 : 27 : 17 : 26 : 4 : 6.

Prothorax as long as or very slightly longer than head; setæ at hind angles long, but not stout, and one rather long pair in the postero-marginal series. Setæ on fore-wing long, upper vein with two in distal half near extreme end and 3 + 3 near base.

Apical abdominal bristles long.

♂.—Length about 1·2 mm., slender.

Each of the sternites 3 to 7 with numerous minute, roundish, irregular, pale depressions, those at angles, especially the anterior, slightly larger. Tergite 9 with a series of short spines in a line near posterior margin.

Colour of antennæ as in ♀; joint 6 abnormally long; relative lengths of joints 3 to 8 as follows:—26 : 25 : 13 : 36 : 3 : 4·5.

*Type.* Hope Department of Zoology, University Museum, Oxford.

*Hab.* N. Queensland, Brandon, ♂ and ♀ on a composite flower (? *Helianthus* sp.), 16. x. 14; Brisbane, numerous ♀ ♀ and 1 ♂ on *Acokeanthera spectabilis* (a South-African plant), in the Botanic Gardens, 23. x. 14.

Victoria, Ballarat, 1 ♂ on *Hypochæris radicata*, 18. i. 15.

One of the many interesting species discovered by Mr. Reg. Kelly, after whom I find pleasure in naming it.

The ♂ is easily separated from ♂ *Ph. funtumiæ* by the nature of the depressions in sternites 3 to 7, the line of spines in ninth tergite, the unicolorous antennæ, and the exceptionally long sixth joint.

c. *Pallipennis* group.

*Physothrips brevicornis*, sp. n.

♀.—Length 1·2 to 1·3 mm.

Colour dark brown, fore-tibiæ, apices of fore-femora and of hind and intermediate tibiæ and all tarsi yellowish; fore-wings wholly greyish yellow-brown, hind-wings greyish at base. Antennæ with first joint and style grey to grey-brown, second dark brown, 3 to 5 yellowish, the latter very lightly tinted with grey; 6 yellow, with distal half grey-brown.

Head transverse, about 0·65 as long as broad, cheeks apparently converging posteriorly; eyes large, not bulging, coarsely facetted and very minutely setose; interocellar bristles moderately long. Antennæ short and rather stout, a little more than twice as long as the head; relative lengths and breadths of joints 3 to 8 as follows:—

$$\frac{32 : 29 : 26 : 36 : 6 : 11}{18 : 18 : 14 : 15 : 6 : 4}$$

3 to 4 broadly claviform.

Prothorax transverse, about 1·25 times longer than the head; bristles at posterior angles rather short, the inner one of each pair longer than the outer, and about 0·4 as long as the prothorax. Upper vein of fore-wing with 3 or 4 setæ (1+0 (or 1)+1+1) in the distal half; in one specimen 4 are placed in the distal third; lower vein with 11 to 15 setæ.

Abdomen only slightly broader than the pterothorax, elongate-ovate.

*Type.* Hope Department of Zoology, University Museum, Oxford.

*Hab.* AUSTRALIA, Ballarat, Victoria; 3 ♀♀ on *Hypochæris radicata*, 28. i. 15 (*R. Kelly*).

*Physothrips longiceps*, sp. n.

♀.—Length 1·5 mm.

Colour chestnut-brown; fore tibiæ yellowish distally, margins dark; tarsi yellowish. Antennæ brown, joint 2

distally and 3 rather lighter, the latter inclined to yellowish basally. Fore-wings and cilia yellowish-brown.

Head long, about 0·85 as long as broad and as long as the prothorax; widened just behind eyes, cheeks subparallel; surface transversely striate, and vertex similarly striate. Eyes occupying about 0·5 the length of the head, coarsely facetted; postocular bristles absent; interocellar setæ situated just behind anterior ocellus, minute. Antennæ twice as long as the head; joints 3 and 4 fusiform, 5 and 6 broadly united, and 4 and 5 shortly constricted near base; style short; relative lengths of joints as follows:—11 : 17 : 26 (including stem) : 22 : 18 : 23 : 3 : 3. Forked trichomes on 3 and 4 moderately long.

Prothorax about 0·7 as long as broad; bristles at hind angles about 0·4 the length of prothorax.

Pterothorax large. Legs somewhat stout. Wings reaching to ninth abdominal segment, pointed; setæ moderately long, slender. Fore-wing with three setæ in distal half, viz., one just beyond the second third, and two in distal fifth; lower vein with 14–17 setæ.

Abdomen elongate-ovate, pointed at apex. Bristles on segments 9 and 10 long, slender; 9 with a pair of widely separated dorsal bristles.

♂.—Smaller and more slender.

Tergite 9 with a series of four closely set long setæ disposed practically in a straight line. Sternites 3–7 each with a small depression, gradually diminishing in size; 3 and 4 the largest, elliptical, 5–7 rounded, and 7 the smallest, minute.

Separated from *pallipennis*, Uz., by the long head, the coloration of antennæ and wings, the small depressions in sternites, and the length and disposition of setæ on the ninth tergite in the ♂.

*Type.* Hope Department of Zoology, University Museum, Oxford.

*Hab.* India, Kulhara, Garhwal, 11,700 feet altitude; in flowers of rhododendron, 5. vi. 10 (*A. D. Imms*).

*Physothrips calcaratus*, sp. n.

♀.—Size and form much as in *P. vulgatissimus* (*pallipennis*). Colour evidently dark brown, with the fore-tibiæ and ends of the intermediate and hind-tibiæ lighter, and all

tarsi yellowish. Antennæ brown, end of joint 2 and whole of 3 yellowish.

Head transverse, rather long; eyes coarsely facetted, sparsely and minutely setose; ocelli large, interocellar bristles long, placed between the posterior ocelli. Antennæ about 2·3 times as long as the head; joints 1 and 2 broader than any of the succeeding; relative lengths of joints as follows:— 10 : 12 : 19 (including stem, which is rather long) : 16 : 12 : 17 : 2·5 : 3. 3 (excluding stem) and 4 subequal, fusiform; 5 narrower than 4 or 6, apex truncate.

Prothorax about 1·4 times as broad as long, and scarcely noticeably longer than head; bristles at hind angles very long, about 0·7 the length of the prothorax, slender. Legs somewhat stout; *fore tarsus with a sharp stout tooth near apex.* Wings longish, pointed apically; fore-wings uniform grey-brown; setæ long and slender, 3 to 5 in distal half of upper vein, namely, 1 just beyond middle of wing and 2 to 4 (1+1, 1+1+1, 2+1, or 2+2) in the distal fifth. Costa with about 25 and lower vein 17 longish setæ.

Abdomen elongate-ovate; apical bristles fairly long, a dorsal pair on 9; tergite 8 with a moderately long close fringe.

At once recognized by the fore-tarsal claw (analogous with *Thrips calcaratus,* Uz.) and the setæ of the upper vein of the fore-wing.

*Hab.* Bohemia; in coll. Uzel mixed with *Odontothrips phaleratus.*

*Pseudothrips parvus,* sp. n.

♀.—Length about 1·0 mm.

General colour yellow-brown to brown, abdominal segments 9 and 10 darker. Antennæ with first joint greyish, second and fifth to eighth grey-brown, 3, 4, and extreme base of 5 yellow, 4 tinged lightly with grey. Fore-wings wholly light yellowish-brown. Legs yellowish, more or less shaded with grey to brown, especially the femora and outer margins.

Head transverse, about 1·3 times as broad as long, and nearly as long as the prothorax; eyes coarsely facetted. Sixth antennal joint not divided. One prominent prothoracic bristle at each posterior angle and a shorter one just above. Both veins of fore-wing regularly set with setæ, 11 or 12 in each.

Abdomen elongate-ovate, sharply narrowed at apex; posterior margin of eighth tergite sparsely fringed. Apical

bristles of both ninth and tenth segments long; a dorsal series of minor setæ on 9 and a dorsal pair on 10; the latter segment divided above.

*Type.* Hope Department of Zoology, University Museum, Oxford.

*Hab.* N. Queensland, Brandon; on a composite flower (? *Helianthus* sp.), 16. x. 14 (*R. Kelly*).

Near *P. glaucus*, Bagn. (a South-African species), from which it may be separated, apart from coloration, by the fewer setæ on veins of fore-wings and the chætotaxy of the apical abdominal segments.

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## XIX.—*The Nematode Genus* Tanqua, *R. Blanchard.*

By H. A. Baylis, B.A.

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Up to the present time only a single species of this remarkable genus appears to have been recognized, viz. the interesting form *Tanqua tiara* (v. Linst.). This is a nematode of medium size, somewhat resembling an *Ascaris* in general build, and inhabiting the stomach and intestines of reptiles of more or less aquatic habits. It was first recorded, under the name of *Ascaris tiara*, by von Linstow (1879), from "*Varanus ornatus*" (? *V. albigularis* *) in Natal. The other hosts and localities from which it has been recorded in published papers are:—*Varanus salvator*, Sumatra (Parona, 1898); *V. gouldii*, Australia or New Guinea—precise locality unknown (Parona, 1898); *V. bengalensis*, Ceylon (von Linstow, 1904); and *V. niloticus*, White Nile (Leiper, 1908). Leiper also mentions the occurrence of a very similar form in *Hydrosaurus bivittatus* from the Federated Malay States.

I have now to add that I have examined specimens, which I believe to belong to this species, (1) from a lizard (probably *Varanus niloticus*, though I have no information regarding its determination), from Accra, Gold Coast Colony; (2) from *Tropidonotus quincunciatus* (*T. asperrimus*, Blgr.†), from Ceylon; and (3) from *Varanus exanthematicus*, Northern

* Dr. G. A. Boulenger informs me that *V. albigularis* is the form most nearly related to *V. ornatus*, occurring in Natal.

† Dr. Boulenger regards the Ceylon form of *T. quincunciatus* as a distinct species.